PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of

Docket No: Q76934

Hee-chul HAN

Appln. No.: 10/682,429

Group Art Unit: 2677

Confirmation No.: 2133

Examiner: HARRISON, CHANTE E.

Filed: October 10, 2003

For: METHOD AND APPARATUS FOR GENERATING VECTOR FONT

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. A check for the statutory fee of $500.00 is attached. The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account. A duplicate copy of this paper is attached.

Respectfully submitted,

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WASHINGTON OFFICE
23373
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Date: August 14, 2006

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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

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Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

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I. REAL PARTY IN INTEREST

Based on the information supplied by the Appellant, and the best of Appellant's legal representative's knowledge, the real party in the interest is the assignee, SAMSUNG ELECTRONICS CO., LTD. The Assignment was recorded on October 10, 2003, at Reel 014613, Frame 0632.

II. RELATED APPEALS AND INTERFERENCES

To the best knowledge and belief of Appellant, the Assignee and the undersigned attorney, there are no other appeals or interferences before the Board of Appeals and Interferences ("the Board") that will directly affect or be affected by the Board's decision in the present Appeal.

III. STATUS OF CLAIMS

Claims 1-22 are all the claims pending in the application, have been finally rejected, and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

No amendments have been made subsequent to the Final Office Action dated July 13, 2005.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The invention relates to a method and apparatus for generating fonts while using a minimal amount of memory by gradually transforming vector font data (Paragraph 2 of the Specification). Sometimes it is desirable to change the shape of a character when using a specific font. In the conventional art, however, to output characters of various shapes, diverse fonts should be stored in a memory. This requires a memory having a large capacity (Paragraph 9 of the Specification).

According to an embodiment of the present invention, a font can be changed without requiring large memory capacity (Paragraph 56 of the Specification). Figure 4 illustrates how the shape of a character shown in Fig. 3 is transformed. As shown in Fig. 4, the transformed character is formed by moving a start point 1 (410) by a small degree. In addition, if a control point 2 (420) is moved, a Bezier curve, which is formed by connecting the control point 2 (420) to a control point 3 (430), is shaped different from the character of Fig. 3 (Paragraph 38 of the Specification).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-22 are rejected under 35 U.S.C. §103 as being unpatentable over Watanabe (U.S. Patent 5,519,412) and further in view of Yoshida (U.S. Patent 5,852,680).

VII. ARGUMENT

Each of the independent claims recites, inter alia: "wherein the moving of the set of transforming feature points moves the transforming feature points from their usual positions within the character, thereby transforming a shape of the character." The Examiner admits that Watanabe fails to teach that moving the set of transforming feature points moves the transforming feature points from their usual position within the character, but the Examiner applies Yoshida for this teaching (e.g., page 3 of the Office Action dated July 13, 2005, third full paragraph), and concludes that it would have been obvious to include Yoshida's transformation of feature points to offset the usual positions of the point in the character with the character generating method of Watanabe because transforming a character's shape by altering the thickness involves adjusting the points forming the character, such that the points are adjusted inward and/or outward from the current character outline to effect a thickening or narrowing of the character, which results in a character of an altered shape. See the paragraph bridging pages 3 and 4 of the July 13, 2005 Office Action. Also, in the paragraph bridging pages 2 and 3 of the Office Action, the Examiner states that Watanabe teaches transforming a shape of the character, and the Examiner refers to Watanabe's abstract in col., 2, lines 8-16 for this teaching.

In the Response filed October 13, 2005, Appellant argued in response to the above reasoning that the combination of references proposed by the Examiner would not have rendered the claimed invention obvious. In more detail, Watanabe seeks to preserve the original shape of the character. For example, at col., 1, lines 38-63, Watanabe explains that there is a problem in the prior art where lateral line portions are reproduced thinner than other portions of a character *due to a quantization error when converting character patterns into dot patterns.* See specifically, col., 1 lines 46-49. Thus, Watanabe seeks to remove differences caused by quantization error when character patterns are converted. That is, Watanabe seeks to retain the original shape of the character. Yoshida teaches altering the thickness of certain portions of the character. Appellant submits, however, that applying the teaching of Yoshida to Watanabe would render the prior art unsatisfactory for its intended purpose and would change the principal of operation on which Watanabe is based. That is, modifying Watanabe as proposed by the Examiner would change the shape of the character produced by Watanabe, which is exactly the opposite of Watanabe seeks to achieve, that is, preserving the shape of the character.

In an Advisory Action issued November 23, 2005, the Examiner responds to these arguments by stating:

> Watanabe teaches changing the size of the character while maintaining quality of the character by ensuring uniform character line thickness (col. 6, ll. 40-47). Yoshida also teaches changing the size of a character, while maintaining character quality through uniform thickness specified by a weight that is applied to x and y coordinates as the character size is changed (col. 12, ll. 10-65). Thus the teachings of both Watanabe and Yoshida are the same in that each teaches transforming the character shape

> by changing the size of the character pattern while maintaining character quality by ensuring that as the thickness of the character lines change in correspondence with the character size that the change in the line thickness is uniform. Therefore, applying the teaching of Yoshida to Watanabe would not render the prior art unsatisfactory for its intended purpose and would not change the principal of operation on which Watanabe is based.

Appellant submits, however, that Watanabe does not teach transforming the character shape. Watanabe seeks to maintain the original shape and seeks to maintain image quality by correcting for quantization errors that occur in the process of changing character size (col. 1, lines 14-38). Watanabe corrects for the quantization error by adjusting line thickness. Watanabe views a change in character shape as being undesirable, but recognizes that the thickness of some lines of a character whose size has been changed may have to be adjusted to maintain quality.

Yoshida, on the other hand, actively seeks to thicken or narrow the character pattern (see, e.g., the Abstract: "A thickening amount or a narrowing amount is input to thicken or narrow the character pattern."). Yoshida's object is to alter the character, while Watanabe's object is to maintain the shape of the character when its size is changed. Therefore, Appellant submits that applying Yoshida's teaching of changing the thickness of character elements to Watanabe would render Watanabe unsatisfactory for its intended purpose and would change the principal of operation on which Watanabe is based.

Because it is improper to base an obviousness rejection upon a proposed modification that would render the prior art unsatisfactory for its intended purpose, or that would change the principle of operation of a reference (see, generally MPEP 2143.03), Appellant submits that the combination proposed in the Office Action is improper, and requests that the rejection of claims 1-22 be withdrawn.

The above arguments apply to each of the independent claims 1, 7, 14, 21 and 22, as well as their dependent claims.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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CLAIMS APPENDIX

CLAIMS 1-22 ON APPEAL:

1. A method of generating a font, the method comprising:

(a) receiving font data for a character, and setting a degree of font transformation; and

(b) transforming the font for the character by moving a set of transforming feature points of a plurality of feature points comprising the font data for the character downward, upward, to the left, or to the right, according to the set degree of font transformation, and outputting a result of the font transformation, wherein the moving of the set of transforming feature points moves the transforming feature points from their usual positions within the character, thereby transforming a shape of the character.

2. The method of claim 1, wherein the font is expressed using command codes at the plurality of feature points and implementation functions forming at least one of a straight line and a curve connecting the plurality of feature points, and moving the set of transforming feature points of the plurality of feature points according to the set degree of font transformation.

3. The method of claim 2, wherein the curve is a Bezier curve.

4. The method of claim 2, wherein the font is a vector font.

5. The method of claim 1, wherein the degree of font transformation is set to a predetermined percentage of a font size of the font.

6. The method of claim 1, step (b) further comprising moving a first feature point of the set of transforming feature points of the plurality of feature points by a small amount of movement when a second feature point of the set of transforming feature points adjacent to the first feature point has a vector corresponding to the same quadrant as the vector of the first feature point, and in other cases, moving the first feature point by a large amount of movement.

7. A method of generating a font, the method comprising:

(a) deciding whether to transform all instances of a plurality of instances of a character in a text by an identical degree of font transformation or to transform an instance of the plurality of instances of the character by a degree of font transformation different from other instances of the plurality of instances; and

(b) setting the degree of font transformation for each instance of the plurality of instances of the character, according to the decision; and

(c) according to the set degree of font transformation, transforming the font of the plurality of instances of the character by moving upward, downward, to the left, or to the right a set of transforming features points of a plurality of feature points forming the character, and outputting a result of the transformation, wherein the moving of the set of transforming feature points moves the transforming feature points from their usual positions within the character, thereby transforming a shape of the character.

8. The method of claim 7, step (b) further comprising, if, based on user input, the decision is made to transform the instance of the plurality of instances of the character by a degree of font transformation different from other instances of the plurality of instances of the

character, setting the degree of font transformation for each instance of the plurality of instances of the character, and in other cases, fixing the degree of font transformation to a predetermined degree.

9. The method of claim 7, wherein the character is expressed using command codes at the plurality of feature points forming the character and by implementation functions for forming at least one of a straight line and a curve by connecting the plurality of feature points, and moving the set of transforming feature points of the plurality of feature points, according to the degree of font transformation.

10. The method of claim 9, wherein the curve formed by connecting feature points of the plurality of feature points is a Bezier curve.

11. The method of claim 9, wherein the character is expressed by a vector font.

12. The method of claim 7, wherein the degree of font transformation is set to a predetermined percentage of a size of the character.

13. The method of claim 7, wherein a first feature point of the set of transforming feature points of the plurality of feature points forming the character is moved by a small amount, when a second feature point of the set of transforming feature points has a vector in a quadrant corresponding to the vector of the first feature point, and the first feature point is moved by a large amount in other cases.

14. A font generation apparatus, the apparatus comprising:

a font transformation degree set unit configured to receive user input to make a determination to transform all instances of a plurality of instances of a character in a text by a substantially identical degree of font transformation or to transform an instance of the plurality of instances by a degree of font transformation different from the degree of font transformation for other instances of the plurality of instances, and to set, accordingly, the degree of font transformation for the plurality of instances; and

a font transformation unit configured to transform the font of the plurality of instances of the character by moving a set of transforming feature points of a plurality of feature points of the character upward, downward, to the left, or to the right, according to the set degree of font transformation provided by the font transformation degree set unit, and to output a result of the font transformation, wherein the moving of the set of transforming feature points moves the transforming feature points from their usual positions within the character, thereby transforming a shape of the character.

15. The apparatus of claim 14, further comprising a font data input unit configured to receive font data to be displayed.

16. The apparatus of claim 14, wherein the font is expressed using command codes at the plurality of feature points and implementation functions for forming one of a straight line and a curve connecting the plurality of feature points, and moving the set of transforming feature points of the plurality of feature points according to the degree of font transformation.

17. The apparatus of claim 16, wherein the font is a vector font, and the curve formed is a Bezier curve.

18. The apparatus of claim 14, wherein, when a user input is received indicating the degree of font transformation for an instance of the plurality of instances different from the degree of font transformation for other instances of the plurality of instances, the font transformation degree set unit sets the degree of font transformation for each instance of the plurality of instances at random within a predetermined range of degrees, and in other cases, sets the degree of character transformation to a predetermined degree.

19. The apparatus of claim 18, wherein the degree of font transformation is set to a predetermined percentage of a character size.

20. The apparatus of claim 14, wherein the font transformation unit moves a first feature point of the set of transforming feature points of the plurality of feature points forming the character by a small amount, when a second feature point of the set of transforming feature points has a vector in a quadrant corresponding to the vector of the first feature point, and in other cases, moves the first feature point by a large amount.

21. A computer readable medium having embodied thereon a method of generating a font, the method comprising:

(a) receiving font data for a character, and setting a degree of font transformation; and

(b) transforming the font for the character by moving feature points of a plurality of feature points comprising the font data downward, upward, to the left, or to the right, according to the set degree of font transformation, and outputting a result of the font transformation, wherein the moving of the feature points moves the feature points from their usual positions within the character, thereby transforming a shape of the character.

22. A computer readable medium having embodied thereon a method of generating a font, the method comprising:

(a) deciding whether to transform all instances of a plurality of instances of a character in a text by an identical degree of font transformation or to transform an instance of the plurality of instances of the character by a degree of font transformation different from other instances of the plurality of instances of the character; and

(b) setting the degree of font transformation for each instance of the plurality of instances of the character, according to the decision; and

(c) according to the set degree of font transformation, transforming the font for the plurality of instances of the character by moving upward, downward, to the left, or to the right a set of transforming features points of a plurality of feature points forming the character, and outputting a result of the transformation, wherein the moving of the set of transforming feature points moves the transforming feature points from their usual positions within the character, thereby transforming a shape of the character.

EVIDENCE APPENDIX:

NONE

RELATED PROCEEDINGS APPENDIX

NONE